TITLE V
LEARNING
ENHANCEMENT
CENTER

Luminaria

Special Issue:
Self Directed Learning

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Message From The Editors

The Title V/LEC is delighted to present this special issue of its newsletter Luminaria on the theme of self-directed learning. Creating a conducive environment that fosters self-directedness among our students has been an important part of the overall vision of the center.

We thank our colleagues at MCNY, a combination of full time and part time faculty members, the LEC staff and students who have contributed to this issue. Each article provides a unique perspective on the philosophy, teaching practices, learning principles and scientific study of the processes involved in the development of self directed learners.

The diversity of topics within this special issue demonstrate the broad scope of areas to which self-directed learning, and the study thereof, are applicable. We hope these articles will generate a discourse amongst faculty, staff and students not only about independent learning, but how the examination of this topic is quite multidimensional.

Soon, the LEC will be hosting a symposium on the topic of self-directed learning. We look forward to your attendance and/or participation at this event.

We have so enjoyed working together on this issue and look forward to your responses.

Lisa Bauer and Jaya Kannan

PHILOSOPHY OF SELF-DIRECTED LEARNING

Three Views on the Self-Directed Learner
By Clyde Griffin

1.The Self-Directed Learner *Agonistes*

To become a self-directed learner takes effort. Nothing worth doing is easy. Thus the title of these remarks: The Self-Directed Learner *Agonistes*. The concept of the self-directed or autonomous learner appears frequently in the literature on adult education. The argument is that adults, unlike younger learners, are more open and accustomed to seeking out knowledge that they need to achieve their own purposes (Knowles, 1986). This may be so, but we should also consider another observation about adult learners that may hinder their becoming self-directed learners, namely, their dislike of ambiguity and uncertainty in their learning. It has been noted that adult learners like to know clearly what's expected from them as learners and how to achieve those expectations. These two aspects of the adult learner may work against each other in our trying to help them become self-directed learners.

Also, we should entertain the possibility that not all learners want to be self-directed. This being the case, one of the first tasks of the teacher may be to convince the learner *agonistes* that the struggle to become a self-directed learner is worth the effort and its practice more than just a cultural prejudice of certain educators.

2. Constructing the Independent Learner

Purpose-Centered Education was designed for the adult learner. The curriculum for each semester is structured around a purpose that relates to the world of work in which the adult learner is engaged. In addition, the Constructive Action for each semester allows students to apply what they are learning in the classroom to the real world, thereby, seeing immediately the relevance of their studies, which is also important for the adult learner.

"A student at any time may be in the process of becoming a more self-directed learner than we can ever suspect. A click can be silent"

The Constructive Action is quite structured, and each semester students want to know exactly what the teacher wants for each section. A failure to provide this information leads frequently to anxiety on the part of students and negative attitudes toward the instructor's teaching skills. In my own class, I give them the information they need to feel secure about what they need to do to succeed yet also try to structure the course in such a way that there is space for them to develop their independence as learners. Here is one of the things that I do.

At the very beginning of the class, I ask students what they want to learn from the course. For example, if the Constructive Action deals with working in groups, I ask them what they want to learn about how to work with groups. We then share and discuss as a class what different students want to learn. On the basis of this discussion, I ask students to develop a plan for learning what they want to learn and to include it in their Constructive Action document. At the end of the semester, students use this plan to evaluate their own learning. Did they learn what they wanted to learn or did they learn something different and unexpected? Students thus get structure in this assignment while at the same time have the opportunity to address their own self-directed learning needs and interests.

3. The CLICK

In the spirit of Martin Buber, I say that true teaching is meeting. It is the kind of teaching that happens frequently in small schools like MCNY and sometimes even in large ones. Often these learning encounters can be as important for the teacher as for the student. To bring home the kind of learning encounter I am speaking about, let me share with you one of my own that occurred almost 30 years ago when I was a teacher at an independent school in Cincinnati, Ohio. Here are some excerpts from a series of emails I recently exchanged with one of my students from that long ago time.

Clyde Griffin, Ph.D. is the Chair,
Counseling and Leadership Development
The Audrey Cohen School for Human Services

Jay had found me through an Internet exchange and wrote to tell me that he still remembered courses he had with me nearly 30 years ago. Here is an edited excerpt from our exchange. It begins with my first reply.

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Hi, Jay

I remember Cincinnati Country Day well and fondly. How amazing that you remember those courses? Earlier this year, I got an email from Marc Kirschner who is now a neurologist and living in Seattle. It's great to hear from you all and to see how you have spread out around the country. What are you doing in Maine? I always thought you were more of a Western type, like our president (LOL). But not exactly. What have you been up to? What have you been doing with your life?

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Dear Clyde

How terrific to have found you! Thanks so much for getting back to me. I'm not sure that I will take the reference to our President as a compliment but the "Western-type" is probably a fair characterization of my persona in high school. I actually did toy with the idea of moving west once, and have spent a bit of time in the Rockies over the years but Maine is where my heart lies.

You should not be surprised that I remember the two courses I took from you. In fact, I will never, ever forget them. As I may have mentioned in my earlier email, they were far and away the best courses I took throughout my educational career, especially Black Authors. I mean that sincerely. You are a truly gifted teacher and I credit you with opening my mind in ways it might not have been otherwise. I often think of the books we read and the provocative questions you asked ("Espy, are you a white devil?"). This was hot stuff for an upper middle class white kid who'd seen very little beyond the borders of Indian Hill. Now in my mid-40s, I still know very little about other people, other cultures, other viewpoints - but you caused me to be very curious about all of these things.

Reading the material you put before us turned me on to reading and discussing what we read caused me to enjoy intellectual exploration. This was a turning point for me - prior to that I had just been cruising along looking for the next good time.

It was a conversation about Black Authors this Monday that fascinated a tech-savvy colleague of mine so much she felt compelled to search for you on the Internet. She had started her professional life as a teacher. So, as far as I am concerned, your courses were amazing, <u>not</u> the fact that I remember them.

I do hope we can reconnect in person. In the meantime, I send you best wishes and many thanks.

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In the exchange of emails with my student, Jay, he remarks that until his class in Black Authors with me he had just been "cruising" as a student. That class woke him up intellectually. In short, he experienced the CLICK! Until students experience the CLICK, they're just students and, indeed, just cruising, in search of a grade. After they experience it, they're self-directed learners. How we bring them to that point is a mystery to me. How I came to that point in my own learning is also a mystery. What I can say about the experience, however, is that it signals both an intellectual and emotional awakening. And, surprisingly, the teacher does not always know when or with whom it is happening. In short, we may be totally ignorant of what is occurring in our own classroom and in some ways strangers to the depth of learning that is going on. Because of this, one of my warnings to new teachers has always been that we never know who is sitting in our classroom or how what we are saying is being understood. Because we do not know, we should be somewhat humble when trying to explain to others the mystery of teaching and learning and the CLICK!

In short, we are actually ignorant of our own teaching effectiveness if we are honest about the matter. A student at any time may be in the process of becoming a more self-directed learner than we can ever suspect. A click can be silent! And almost always is.

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The Paradox of Promoting Self-Directed Learning at the LEC
By Jaya Kannan

What is meant by self-directed learning?

The virtue of being self-directed comes from an inward looking learner keen to take charge of his or her learning path. In the context of the digital age in particular, unlike the solitary Robinson Crusoe, the self-directed learner knows when to seek help and how to explore resources, contributes to and gains from a learning community, and combines aspects of cognition and affect holistically in the learning process.

In the last four decades of academic research, attempts to explain and define self-directedness have combined the learner's *sense of the Self* with the significance of the learning process, personality traits and learning methodologies. (Oddi 1986, 1987). Knowles (1957) has defined self-directed learning as

> a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes. (Knowles, 1975)

Focusing on the adult learner while studying self-directedness has special relevance to our work at MCNY, given the well developed ability for metacognition that an older learner seems to possess (Fischer, King and Tague 2001). In aiming to provide quality academic services to our students, the vision of the LEC includes the promotion of self-directedness as an important and implicit goal.

So, if the learner is in charge of his/her journey, the fundamental question is: "Is self-directedness teachable?" It is my strong belief that it is not possible to teach someone to be self-directed any more, in my opinion, than it is possible to teach someone to be empowered. Both self-direction and personal empowerment must come from within. Is it then a paradox that the LEC is trying to promote SDL? The answer is an emphatic no. A formal education system can provide the tools to develop self-directedness even when the student takes complete ownership for the learning. This is what we try to do at the LEC.

> "One must caution against the danger of looking at self-directedness without the relevance of a learning context."

In turn, this begs the question: "Is the self-directed learner born or made?" What is problematic about this question is the assumption that a self-directed learner is either self-directed at all times or not at all. One must caution against the danger of looking at self-directedness without the relevance of a learning context. For example, a person who is highly self-directed when it comes to learning to write may (for a variety of reasons) not demonstrate the same traits when it comes to learning music. Hence, it is extremely important to anchor self-directedness in a specific learning context.

The LEC's role in the development of self-directed learning:

At the LEC, we constantly strive to take measures that enable students to emerge as independent learners. This includes encouraging students to a) reflect on their learning, b) self-assess their strengths and learning challenges c) design a clear, measurable learning plan, d) build a spirit of inquiry by developing questioning techniques, and e) strike a balance between feelings and thinking in the overall learning process. In a way, when a student takes the step to visit the LEC whether in response to a referral from a professor or as an act of volition, the student already displays a certain degree of self-directedness. However, we have observed that this motivated student might still be lacking in his/her demonstration of self-management or learner control (defined by Candy as a dimension of self-direction that is "a mode of organizing instruction in formal settings"). (Candy, 1991, p23).

Today's integrationist approach to academic research that asks us to consider a nature via nurture approach is relevant here. We must believe that we as educators have a responsibility to hone the potential in the student to be the self-directed learner that he/she can be. Therefore, at the LEC while we understand that the onus clearly rests on the student, we also believe that it is possible to create an atmosphere for learning that is conducive to the student so that he or she may develop as a self-directed learner. In this regard, while recognizing the interconnectedness between method and outcome, it might be more important to look at self-direction as a *process* than an *outcome* of learning.

Jaya Kannan, Ph.D, is the Director of the Title V Learning Enhancement Center and Associate Professor in the Audrey Cohen School for Human Services and Education
jkannan@metropolitan.edu

Highlights from initiatives at the LEC:

In the area of teaching practices:

- During the one-on-one sessions with students, we focus on modeling questioning techniques that enable the student to build a spirit of inquiry. For example, when a student comes with a written paper and wants to be told what is wrong with his/her paper, a simple "what do you think might be the areas for improvement here?'' has often elicited insightful responses from the student. Following this up with a collaborative discussion has gradually helped students develop as reflective thinkers..
- A conscious attempt is made to engage the learner in a dialogue instead of doing the work for him/her. For example, we do not proofread students' assignments or edit their writing but concentrate on providing the tools to guide the student through the editing process. There have been occasions when a student has left the Centre disappointed at not being able to get his/ her paper proofread. But students who have shown the drive to learn the process of editing, have valued this teaching method and have returned to the LEC for subsequent semesters.

As demonstrated in student learning:

- Each and every student creates an individualized learning plan in celebration of the unique learner that he or she is. The creation of learning goals for each semester and sometimes even specific sessions enables the learners to feel in control of their learning.
- As part of the goal setting, students are guided to create goals that are realistic and measurable. By setting measurable goals within this learning plan, students build the necessary tool of self-assessment.
- Sometimes students choose "improving confidence" or "overcoming fear" as part of their learning plan. This allows for the student to focus on the role of affect in learning, an area that is not given as much importance as cognition within the education system in general or the classroom.
- Students returning to the LEC for more than two semesters build a continuum in their learning plan thereby showing an emergence of self-directedness and lifelong learning. In the last two years, 18 students have chosen to continue their learning at the LEC for more than two semesters.

Assessment of student learning:

- Student progress reports produced at the end of the term assess learning by paying close attention to the student's goal. Feedback is provided using the measurable criteria that the student has established. Progress reports also contribute to the self-assessment that the student demonstrates when creating the learning plan for the subsequent term.
- Use of the ipsative assessment style (a type of assessment in which a comparison between the student's current learning performance and a previous performance is used as criterion for measurement of progress (McDermott, et. al, 1992)) is tailored to the overall goal of fostering self-directedness.

Research studies in progress:

- A research project in progress within the LEC is focused on the study of SDL readiness among students visiting the Center. After working on the design of the research plan in the summer term, we have begun to collect data in the fall term. In the coming issues, we will report on our findings.
- Please watch for announcements regarding an upcoming symposium on self-directed learning to be hosted by the Title V/LEC.

Overall, these LEC initiatives and the efforts and the services by our faculty and staff at MCNY augur well for the glorious path of discovery, experimentation and formal research in the study and promotion of student self-directedness at the institution.

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Reflections from Self Directed Learners

Reflections from Self Directed Learners

Overcoming Fear in my Path Towards Self-Directed Learning

By Robert Burch

Before coming to Metropolitan College of New York (MCNY), for a long time, I had felt that I was an underachiever. I gave in to my fear of math, writing, and spelling, fleeing each time I attempted college. Soon, I began searching for colleges without these prerequisites, especially the math requirement. Although I was doing well at work in these areas, I lacked the confidence to demonstrate these skills in an academic setting. My passion for working with people motivated me to stay in the human service field. However, I took steps to hide my perceived deficiencies in academic matters from my co-workers and supervisors. I would stay late at work to write my logs in private, only to be surprised later to have them used as models of how notes should look to my co-workers!

Although I did not have the inclination then to complete my academic education, I always managed to keep up with the trainings and to stay up to date with the latest counseling strategies and/or techniques. In 1984 I received my General Equivalency Diploma GED; ten years later I completed my education and training towards my Credentialed Alcoholism counselor (CAC). In that same year I joined a professional support group of which I was an active member until its end over ten years later. Although the classroom hours were the equivalent of an AA degree. I chose the CAC over college because it had much more to offer in terms of on-the-job training based on personal experience.

In time, all that work I did staying late and putting in these efforts became practice for improving my skills. Human service professionals need to have pride in everything they do related to helping their clients. Because of my diligence, it made going the extra mile easy and less burdensome. However, in paving the path for the best health care provider I could be, I discovered conflicts between my ethics and the new environment of health care which seemed to focus less on the quality of service to the clients. In parallel, the desire to continue my education became my new focus.

In my first year at MCNY, I found support and accommodation as an adult learner returning to college. This made it feel possible to get through that first semester. The structure, particularly going out into the field, keeps the sense of familiarity while blending the academics with the real life work that serves one's passion. As an adult, this educational philosophy enables me to welcome challenges with eagerness and acceptance to apply this academic knowledge to the field of human services.

I always wanted to obtain a master's degree - I just needed to overcome the fear. Today I believe achieving a masters' degree is possible. To my surprise, I am immensely enjoying the knowledge and experience that I have been gaining at MCNY. Today I have very little difficulty applying this information to my work experience.

"this educational philosophy enables me to welcome challenges with eagerness"

Robert Burch is a Purpose 6 student of Human Services. He has been visiting the LEC for both math and writing sessions three semesters in a row since fall 2007.

Rochelle Spencer, writing specialist (LEC) has recently become a faculty member at LaGuardia Community College

She also has publications forthcoming in the **Washington Post,** the **San Francisco Examiner**, and **Natural Health** magazine

Becoming a Self-Directed Learner

By Rochelle Spencer

Ms. Enko, my high school pre-calculus teacher, was one of the most serene persons I've ever met. Her face was smooth and cool—its color and texture resembling the inside of a sea shell—and when she spoke, her German-accented English remained calm and assured, even when some students in her class were uncertain as to what exactly she was talking about.

I was in that part of the class that didn't know what was going on. As Ms. Enko discussed sine and cosine, I'd doodle hearts around pictures I'd drawn of rappers Tupac Shakur and Method Man. I had grown accustomed to making Cs and Ds in that class, and the unit circle and functions had become less important to me than the free poster I hoped to receive from the Tupac Fan Club.

Then, one day after class, Ms. Enko spent time going over one of my math quizzes. Apparently, I was setting up the problems right, but—perhaps because I was so afraid of getting the answers wrong—I hadn't bothered to try to complete any of the problems.

At that moment, I wondered when I had stopped trying. One factor may have been that I attended a competitive health science engineering high school, a place where several of my classmates were preparing to matriculate at schools like M.I.T., Harvard, and Georgia Tech. Maybe I was tired of feeling like the dumbest person in the class and so not trying seemed a better option than failing.

When I went away to college, two semesters later, I opted to take college pre-calculus, though my advisor suggested I take college algebra, the only math course required for non-math majors. But I wanted the challenge of taking a rigorous math class. And, more important, I wanted to make sure that I finally understood.

I breezed through all of my college courses except that math course. I had to put in extra effort working problems until I was sure that the concepts I had learned made sense. I had to overcome my shyness and ask questions in class. I had to read my textbook, and also, locate other textbooks that explained the same concepts, only in different ways.

At the end of the semester, I had the thrill of receiving an "A" in a college math course, but there was a greater satisfaction too: the joy of recognizing what I could learn if I tried hard, if I became an independent, self-directed learner.

> "At that moment, I wondered when I had stopped trying"

It may seem strange that today one of the Learning Enhancement Center's *Writing* Specialists is writing about a math class. Worse yet, I can't say that my story ends happily-ever-after: I still experience math anxiety, especially when I have to take tests, and I do have moments, even now, when math gives me the jitters so much that I just stop trying. But I also have moments when I work hard to understand and overcome my math challenges and thus accomplish things—receiving my real estate license, getting into graduate school—that I never thought possible.

The Self Directed Learner: Developing a Questioning Mind

Students as Colleagues

By Brian McInerney

Particularly at MCNY, students need to be seen as colleagues in the provision of Human Services. Those who teach Human Services at MCNY are, hopefully, Human Service providers themselves. Many, if not most, of our students are already "in the field" – as paid workers and or through internships. As teachers, we assist our already-practicing students to develop and refine their skills of helping and to learn the theory behind – and which drives – intervention techniques. Our years of experience in the practice setting can be examples and models of being a professional, enabling our students to strengthen the professional skills that they already possess. In the demonstration of professionalism and characteristics of an HS provider, there ought not to be much difference between our students and our teacher selves at MCNY: perhaps the best "best practice" [and an MCNY distinctive!] is that we, as teaching practice professionals, learn as much from our students' experiences as our students learn from the years of experience we have in the field; thereby setting up a dialogical and dialectic learning lab in the service of promoting self-directed learning.

As an example of how the concept of the dialectic learning lab works to promote self-directed learning, I would like to offer the following example of modeling from the classroom. When students ask questions in class, they rightly expect an answer which they can understand. Often students have mentioned to me that they have not understood the teacher's answer and when they pose the question again, they are told in a more-or-less authoritarian and imperious manner, that the teacher has already answered the question. What does a student learn from this transaction? The student invariably learns that the teacher has not only not understood their question but is not interested enough in the student personally to process what the student was actually asking in posing the question. If we contrast this dialectic with one in which the teacher not only allows but actively encourages the student to ask questions – and the teacher utilizes and demonstrates to the student the intervention technique we call "clarification," then the student will have learned by their own experience an extremely important skill.

Brian McInerney, M.A., M.S.W., Ph.D., L.C.S.W.-is an Adjunct Professor of Social Work in The Audrey Cohen School of Human Services at M.C.N.Y.

He teaches courses in Clinical Counseling, Group Work, and Supervision. He was Director of Social Work and Community Services at Bronx Children's Psychiatric Center for The New York State Office of Mental Health [SOMH] where he worked for many years and specialized in child, adolescent, and family treatment. He writes poetry and has published 5 books of poems and essays.

"we, as teaching practice professionals, learn as much from our students' experience as our students learn from the years of experience we have"

How the example above relates to our students' practice is really the issue. In the first transaction the student learns how to take a "step up" – authoritarian – position in their stance towards citizens. In the second transaction, the student learns the invaluable clinical skill of "clarification" as well as how to take a generally supportive and encouraging stance and manner with their citizens. That is, the student's self-directed learning in the field will become a parallel process with not only the "what" but also the "how" they learned in the classroom.

At MCNY, our goal is to create an environment in which we are all learning together how to be of help now and in the future to those to whom we have a commitment to serve. The ambiance with which we relate to our students in the classroom will be reflected in the ambiance with which they relate to their "citizens" [another MCNY distinctive!]. The environment we jointly create in the classroom – care and modeling of mutual aid – is in parallel process with the relationship we students and teachers create with our citizens. We are all students at MCNY: students and teachers together to be of help and service to our sister and brother citizens of the world.

Question & Insight in Statistics
By Richard Grallo

Many college students have struggled with courses in statistics only to see temporary gains evaporate after a few months. When such students arrive in graduate school, their knowledge of statistics is often episodic at best and non-existent at worst. Such students do not exhibit, with respect to statistics, the motivation, values, specific knowledge and meta-cognitive strategies of independent, self-regulated learners (Schunk & Zimmerman, 2007). For them, this branch of mathematics is neither perceived nor used as an important problem solving tool. What accounts for this?

While many stories about attempting to learn statistics tend to fall into the horror genre, most of them are tales of opportunity lost. In questioning students about their experience in this area, I have found that many report that emphasis in courses and books was often placed on knowledge of specific facts or formulae, or on the calculation of a specific statistic (Grallo, 2006a). What these accounts show is that students frequently take from these sources only bits and pieces of the large domain of statistics, and they have not succeeded in synthesizing these pieces into a useful whole.

In terms of Bloom's revised taxonomy of educational objectives, the experience of these students with statistics often emphasized (factual) *knowledge* and *analysis* to the detriment of *comprehension, synthesis* and *application* (Anderson & Krathwohl, 2001). *What is needed is the kind of comprehension and specific insight that will illuminate each statistic as a potential answer to a question as well as the general insights that will synthesize all statistics into a multi-purpose set of cognitive tools.*

Mayer (1992) defines "insight" as "the process by which a problem solver suddenly moves from a state of not knowing how to solve a problem to a state of knowing how to solve it." For struggling students of statistics, how often do they have insights into the nature and specific use of statistics?

If a specific statistic is a potential answer to a question, then that statistic can be approached through the question it is designed to answer (Grallo, 2006a). But what is the question? Often that is ignored altogether. However, such questions could be identified through compelling problems and contexts related to one's interests (Ferguson, 2005).

At MCNY in the Urban Studies Program, I have introduced a course for the study of both descriptive and inferential statistics through a consideration of two pressing community problems that students often find relevant to their interest in urban issues: the dramatically increased incidence of asthma in large cities, and the increasing diagnosis of children with attention deficit disorder (ADD) in school systems. Now in its second year, this course has been described elsewhere (Grallo, 2006b; Hlawaty & Grallo, 2007).

Richard Grallo, Phd. is an Associate Professor of Applied Psychology In the Audrey Cohen School for Human Services and Education At Metropolitan College of New York

Grallo, Continued

For asthma, ADD and other timely topics, students are encouraged in this course to engage in brainstorming and discussion designed to practice greater independence of thought. Specifically, students: (1) generate and record a number of questions related to a chosen topic. Some of these questions will take numerical answers, some will not. Some will pertain to individuals and some to groups. (2) Together we discuss the kinds of data that might address these questions. (3) If the data are quantitative, we discuss the kinds of statistics that can analyze these data, either by summarizing the data or by making inferences to unobserved populations. (4) We explore the advantages and limitations of each statistic, and we include the ways in which one can be fooled by them. (5) Only if students raise the issue of how a statistic works do we consider the matter of its calculation.

After brainstorming for questions they regard as important, students are challenged to cluster and to classify these questions in terms of general *aims of science* (e.g. description, prediction, explanation, evaluation of an intervention) and in terms of *research design* strategies (e.g. group differences, relations among variables, search for sub-groups). They are then invited to examine a limited number of statistics designed to address specific questions, analyze related data and offer an illuminating summary (in the case of descriptive statistics) or inference (in the case of inferential statistics).

These "situation-question-data-design" connections can potentially guide the learner in the acquisition of knowledge of the topic under consideration, whether it is asthma, ADD or almost anything else. For some of these questions, a specific statistic will provide an appropriate and illuminating answer. With an interesting context and pressing questions, students can begin their rise from confusion to competence in both statistics and the problems that statistics illuminate. This transition marks the emergence of a confident and autonomous learner.

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Fall 2008 Workshops and Activities Schedule
Learning Enhancement Center

9/24	Wednesday	Fun with Fractions	Barrington Scott	5-6pm	12-W
10/1	Wednesday	Using clustering for outlining	Bernadette Cullen	5-6pm	12-W
10/8	Wednesday	Math club: Chess Class	Lisa Bauer	5-6pm	Student Lounge
10/15	Wednesday	Mathematical Thinking	Lisa Bauer	5-6pm	12-V
10/29	Wednesday	Critical Reading Strategies	Yasmine Alwan	5-6pm	12-V
11/1	Saturday	Using clustering for outlining	Bernadette Cullen	3-4pm	12-A
11/12	Wednesday	Math Club: Movie Screening of "Pi"	Lisa Bauer	4-6pm	12-V
11/19	Wednesday	Fun with Fractions	Barrington Scott	5-6pm	12-W
11/22	Saturday	Mathematical Thinking	Lisa Bauer	3-4pm	12-A

Facilitating Self-Directed Learning

Becoming Self-Directed in Your Writing

By Yasmine Alwan

If you are looking for more independence and pleasure in your writing, I urge you to experiment with drafting and freewriting. Both offer tremendous opportunities to enrich your thinking and communicating. Using multiple drafts can deepen your ideas, sharpen your arguments, hone your revision skills, and make your writing more personally relevant. Freewriting can help you discover and develop your ideas. Not only will drafting and freewriting help you cultivate your own idiosyncratic writing process, they can improve your ability to evaluate your own work. Many students find it deeply empowering to anticipate their challenge areas rather than wait for the feedback of others. Thus, enabling students to become more self-regulated in their writing processes.

Not only will drafting and freewriting help you cultivate your own idiosyncratic writing process, they can improve your ability to evaluate your own work.

Peter Elbow (1981) insists that writing draws from two major skills: creativity and critical thinking, and that used together they can sometimes work against each other. His argument makes a perfect case for drafting, exploring ideas through freewriting, creative prewriting strategies, and the use of other drafts to decide how to communicate ideas effectively.

What is freewriting? Freewriting is a perfect example of writing based solely in creativity—most people set a time (ten minutes for example) to simply write everything that comes to mind on their topic, and they keep writing even if they "go blank." One sentence does not have to follow another logically; you don't have to drum up evidence; you don't have to use complete sentences; you don't even have to care about spelling. In short, you play with your ideas and the freewrite is a snapshot of your mind's movement. The point of a freewrite is not to produce good writing; it is to explore your topic and your opinions.

Yasmine Alwan is a Writing Specialist in the Title V Learning Enhancement Center,

She is also a published writer and founding editor of the literary journal, **Tantalum**

yalwan@metropolitan.edu ext: 2418

Unfortunately, students often expect themselves to produce a perfect draft their first round, as if once you press your pen to paper, words should pour out in perfect and clear order. I find this expectation damaging; it assumes your thinking should be completed in your head, and that writing is simply a "translation." Some writers indeed work in this way, while others find it helpful to stretch, challenge, and play with their ideas once they have been externalized on paper. Freed from the fear of mistakes during freewriting, you can more easily tap into their creative and analytical sides. This conversation with yourself on paper increases your ability:

1) to refine and challenge your ideas independently
2) to better direct your writing and learning
3) to experience pleasure in learning for learning's sake, a particular characteristic of independent learners
4) to establish what is at stake for you personally in an assignment
5) to think creatively, "outside the box"
6) to convert fear into motivation.

A good round of freewriting can get you in touch with your real ideas and excite you for the writing process. Many times, I see students coming in quite weighed down by an assignment that feels far away from their experience or simply feels boring. As Mayer, Lester, and Pradl (1983) put it: "Good writers learn to make even the most boring assignment their own. They learn that during the act of writing they will discover what they want to say." As the writer E. M. Forester said, "How do I know what I think until I see what I say?"

And what about drafting? "Ah, drafting," some say, sighing. "Yes, I do write more than one draft. I do a rough draft and then I do a second to clean it up. You know, fix the typos." Really, drafting can offer you so much more than polishing grammar! It can help critique your clarity of ideas, the relationships you have established between them, the clarity of your conclusions, and the structure of your papers.

These many possibilities above demonstrate the power of freewriting and drafting to contribute to your self-directedness in learning in general and writing in particular, especially if you use these as starting points to find your own way of working.

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Technology and Self-Directed Learning

By Lou Acierno

This is an exciting time to be a college student. Profound changes in information retrieval offer students unparalleled research opportunities. MCNY students have at their fingertips millions of full-text scholarly journal articles, company reports, government statistics, international newspapers, trade journals, plus electronic book collections of over 60,000 titles. From any computer — either on- or off-campus — students can retrieve high-quality research material, use embedded collaboration tools to enhance and expand it, and then integrate it with one or more software applications to create papers or multi-media presentations.

As recently as the late 1990's the need to perform high quality research was limited to academia. But today the ubiquity of the internet makes it an essential skill for every aspect of life. Researching such subjects as prescription medications, scholarships, grants, financial information, and government forms all require the correct use of electronic resources and the internet. These skills are necessary for full participation in society.

For many years databases (electronic repositories of scholarly journals) competed to acquire the market's most comprehensive collections. Now this trend seems to have reached a plateau as databases instead compete to provide the most fully integrated service. Today the value of a resource lies in how fully it can be utilized and linked to other resources.
Some examples of the resources provided by MCNY:

- eBrary offers a suite of collaboration tools which allows users to find and hear word definitions (hearing pronunciation is important for in-class presentations), links to encyclopedia articles or maps, highlight and take notes (all stored within an eBrary "Bookshelf"), and cut-and-paste selections with full citations accompanying the text.
- Interactive multi-media presentations can be created and presented on MCNY SMARTBoards.
- Through a mapping program, Visual Thesaurus illustrates the connections between synonyms and allows for searching by definition. This is a whole new way to learn and understand vocabulary.
- RSS syndicated feeds provide daily updated material such as news or successful database searches and then aggregates material or emails directly to the researcher.

These are some of the many tools that add precision, expanse and interactivity to research.

The most adequate use of electronic resources depends on student self-initiative and diligence. Many students mistakenly believe that typing a few words into Google is the limit of their options and choose to settle for inadequate research material. Unfocused use of electronic resources, such as research that lacks the foundation of a thoughtful search strategy or without critical reasoning, will leave most of the best material in cyberspace.

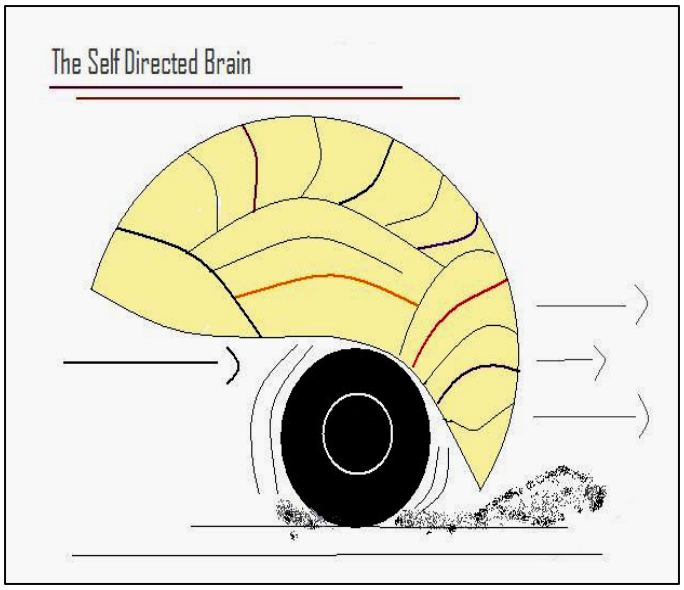
Before beginning to research you must first "not know". This may sound obvious, but the way you negotiate "not knowing" is essential to successful research. Many students respond with anxiety, but a better strategy is to channel the urgency brought on by not knowing into focused and motivated learning. Students are likely unaware of how much they can guide their research. The full use of these resources depends on students asking more from their research by vigorously applying criteria of what constitutes satisfactory material. To learn this, students probably first need to consult with a librarian and/or their instructor.

Students and faculty are understandably anxious about using new electronic research resources or software applications. But unlike other skills that are learned (e.g. learning to drive a car), novices often blame themselves for lacking immediate mastery. Ironically, most electronic resources are chosen by the library or faculty for their user-friendliness. Companies who create resources that seem to require a Masters degree in Computer Science would go out of business quickly, no matter the value of the resource. Remember, all resources include sections on *How to…* and *Frequently Asked Questions*. Many also include online tutorials. And of course, MCNY's library staff is always available to help students navigate the wonderful library resources.

Learning how to choose appropriate resources and technologies, use search tools, determine search terms, altering searches when the results fail to meet expectations (false retrievals, too many results, too few, etc.), and learning to appraise results is all valuable knowledge that you will use even when you are no longer in school. Finally, synthesizing new information with your existing knowledge to create original works can be one of the most rewarding experiences of your education.

Lou Acierno is the Director of Academic Computing (Library) at MCNY
lacierno@metropolitan.edu

THE SCIENCE OF SELF-DIRECTED LEARNING



By Lisa Bauer

"Many persons report in clinical session and in academic classes, that they are emotionally disturbed in the presence of mathematics" - Dreger and Aiken, 1957

Differential Responses to Math Anxiety

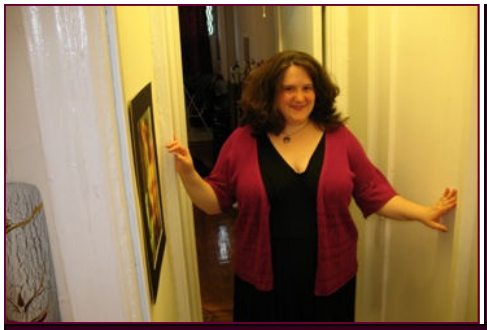
Math anxiety (MA) has been described as the feeling of dread or fear when confronted with a task involving numbers and/or quantification (Tobias, 1991 & 1994). Decades of research have shown that MA is strongly related to decrements in performance in mathematics, leading to withdrawal and avoidance of the subject in secondary and post secondary education (Ashcraft, 2002). While there have been theories as to the causes and nature of MA, it is my estimation that MA alone does not tell the whole story.

Nearly all of the students I have interacted with over the years have described learning math as a stressful experience. Working one-on-one with students I often observe frustration and apprehension towards math, and many students describe their experiences in ways that meet the general diagnostic criteria for MA. However, while many do demonstrate the eventual consequences of MA (withdrawal, loss of focus and decline in performance), some are able to cope. I wondered what other factors might be playing a role in the observed outcomes.

I noticed that among the students coming to the Learning Enhancement Center[1], those who were more likely to cope with the stress displayed greater self-regulatory behavior and accepted personal credit for success more often. For example, these students actively directed their learning sessions (e.g. these students had a clear plan as to the use of their session) were far more likely to seek out additional ways (e.g. web resources, supplemental assignments) to develop and practice new skills, and were more likely to set their own evaluation criteria as part of their learning objectives. Finally, when these students performed well on an exam or in a class they had prepared for with a math specialist, they were more likely to say "I got an A!" (with the emphasis on "I", or the self's contribution to the learning). This demonstrated that they perceived their successful performance as a product of their actions.

In contrast, the students who were less likely to cope were also less likely to lead their own sessions or complete independent practice work. During sessions, they relied mostly on specialist direction and thereafter used evaluation from their professors as the only measurement of their performance. Finally, if and when their performance improved, they would attribute the success to working with a specialist. For example, they would say "If it weren't for my math tutor…." That is, they were less likely to attribute success (or failure) to the self, and more so on external sources.

Based on these observations, it appeared to me that the students who were more likely to develop (or at least demonstrate) adaptive coping strategies for MA were also those that would be considered self-directed (SD) learners. This is given that SD learners are those described as maintaining primary responsibility for developing, carrying out and assessing their learning strategies (Hiemstra, 1999). This interaction of properties related to SD learning and their effect on MA led to more questions.



Lisa Bauer is a math and statistics specialist in the Title V Learning Enhancement Center.

She is a graduate of MCNY holding a BPS in Human Services. She also has an M.S. in Neuroscience and Education from Teachers College, Columbia University

1. based on observations of statements and behavior

Bauer, Continued

Self-Directed Learning: Implicit Theories of Intelligence and Control Beliefs

SD learning is an autonomous approach to the acquisition of new knowledge or (a) skill(s) (Zimmerman, 1990; Peters, 1989). This method is often marked by such characteristics as the self-generation of goals, a self-designed and enacted learning plan and the self-evaluation of progress. As the self is the primary source of causation in this description, it is implied that the SD learner perceives the learning task as controllable.

A control belief is an expectation about the degree to which an outcome is a result of one's actions (Seligman, 1972; Albert and Geller, 1978). People that are less likely to believe that their behaviors have a great impact on outcomes, and feel greater influence is exerted by environment forces, are said to hold an external locus of control (ELC). Conversely, when the ratio of effects gives greater weight to the role of personal causation, the person is said to hold an internal locus of control (ILC) (Eccles and Wigfield, 2002; Dweck & Legget, 1988). Studies have indicated a correlation between externalized control (uncontrollability) with learned helpless behaviors such as maladaptive coping strategies and decrements in performance (Dweck & Repucci, 1973)

Dweck (1986) posits that individuals have an implicit theory of intelligence (ITOI) making them either an entity theorist or an incremental theorist. Entity theorists tend to view intelligence as a fixed, uncontrollable characteristic, while incremental theorists see intelligence as developed and malleable. Much of the research surrounding ITOI demonstrates that an entity mindset predicts goal orientation and control beliefs (Dweck & Leggett 1988). Incremental theorists favor learning oriented goals and tend to hold an ILC, while entity theorists demonstrate an ELC and favor performance oriented goals.

A learning oriented goal (LG) is defined as one related to the development of competence in a task or subject, driven by an intrinsic desire to learn something new or improve one's skills. A performance oriented goal (PG) is concerned mostly with external evaluation; specifically that their overall capability is determined by how favorably their performance is judged by figures of authority (Dweck, 1986). PGs have been observed to result in disengagement or task avoidance when an entity theorist is confronted by a challenge. The individual, believing that his/her intelligence is an uncontrollable characteristic, would see the challenge as an opportunity to expose inadequacy in a domain that he/she stands no chance of improving (Eccles & Wigfield, 2002). The entity theorist believes effort will not dramatically impact the outcome, so when faced with challenge, learned helpless-like behaviors emerge.

Learned Helplessness

Seligman, Maier and Geer (1968) defines learned helplessness (LH) as the perception that the occurrence of an aversive event (or exposure to aversive stimuli) is independent of the behavior of the individual. This behavior has been observed in several organisms. By far one of the most famous examples is of the dogs Seligman exposed to inescapable (uncontrollable) shock who later failed to try to escape such treatment when escape became possible. Similar to observations made of individuals holding an ELC and an entity mindset, a lack of control over outcomes elicits a maladaptive coping strategy to future challenging conditions.

Connecting these ideas would not be hard to accomplish. The degree to which an individual believes in the fixed nature of their ability predicts perceived controllability over stressful, challenging events. When controllability is not detected, and the person is confronted with such an event, LH behaviors are elicited. Conversely, when a person maintains that ability is capable of being improved upon, and the manner in which it is developed is within the individual's control; goal-oriented, adaptive strategies emerge. The question remains as to what is causing this behavioral phenomenon.

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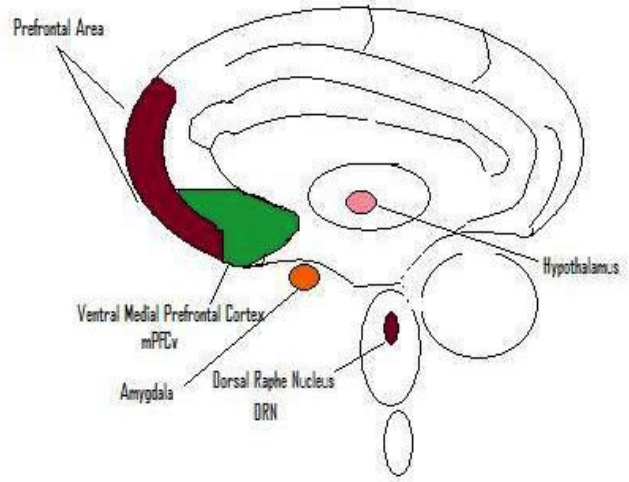

Figure 1 -side view interpretation of the brain highlighting the locations of regions mentioned in text.

The Neuroscience of Learned Helplessness

Although many students might disagree, stress is a wonderful, adaptive trait. Under necessary circumstances, stress promotes survival by conserving normal bodily functions in service of danger or threat evasion. Despite its malevolent reputation, we need stress, and the hormones that relegate it, in order to survive. Therefore, stress itself is not the force behind debilitation it is often considered; poor coping mechanisms are to blame. As we have so far demonstrated, maladaptive beliefs (e.g. ELC, entity theory, PG orientation) relate to poor strategies in facing challenging circumstances. As we will see, controllability is the central function of this system.

The brain regulates the totality of human behavior. Specific interactions at the neurological level have been observed in LH experiments. The ventral medial prefrontal cortex (mPFCv) located in the frontal lobe, and the dorsal raphe nucleus (DRN) located within the brainstem are key cortical players mediating the LH type response to aversive (stressful) stimuli (see figure 1). The hypothalamic-pituitary-adrenal axis (HPA axis) is the controlling circuit that modulates the behavioral response to stress. Corticotrophin-releasing hormone (CRH) is released when stress is encountered. CRH triggers the HPA-axis (Abrams, Johnson, Hollis, and Lowry 2004) in addition to projecting to the DRN (Amat, Baratta, Paul, Bland, Watkins and Maier, 2005).

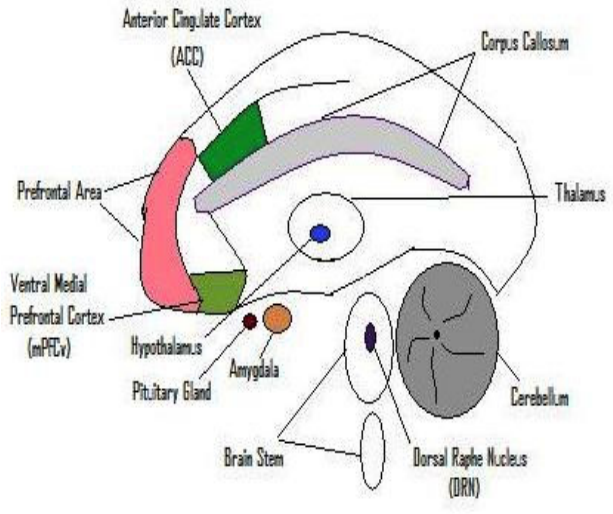

Figure 2 -side view interpretation of the brain highlighting the locations of regions mentioned in text.

When the HPA axis is activated, the body exhibits a normal stress response. However, when the DRN receives afferent inputs of CRH, it projects the signal throughout the limbic system (the emotional circuit of the brain), and especially to the central nucleus of the amygdala; a region strongly associated with fear, fear conditioning and anxiety (Lowry, Rodda, Stafford, Lightman and Ingram 2000; Amat, Baratta, Paul, Bland, Watkins and Maier, 2005). This triggers a pattern of interactions in the brain at the cellular level that express themselves behaviorally as exaggerated anxiety or LH.

Activation of the DRN is prevented by signals sent from the mPFCv. This signal appears to trigger when controllability of the stressor is detected. When a stressful event or stimuli is perceived as controllable, the mPFCv inhibits (or decreases the activity) of the DRN (Maier and Watkins, 2005; Amat, Baratta, Paul, Bland, Watkins and Maier, 2005). This inhibition prevents the DRN from exacerbating the stress response into LH symptoms.

A notable symptom of DRN projections is the reduction of the ability to learn strategic planning and initiate goal-directed behaviors (Maier and Watkins, 2005). This could be caused by inhibition of the anterior cingulate cortex (ACC); a region strongly associated with planning, resolving conflict and directing actions towards a goal (see figure 2). Inhibition of the ACC, most likely through projections from the amygdala, has been observed in subjects engaged in tasks without controllability over the outcomes (Bauer, Pripfl, Lamm, Prainsack, Taylor, 2003).

Prolonged exposure to stress, or exposure to stress perceived as uncontrollable, desensitizes the DRN to CRH, resulting in exaggerated stress and anxiety to the stressor in the future. When the mPFCv is able to detect controllability, it can suppress activation of the DRN, thereby preventing this. However, controllability is ultimately a subjective experience that can often not be inherent within an activity. To facilitate this sense of control, or a belief in the flexibility of aptitude, is a great challenge in the promotion of SD learning.

"If God wanted me to be good at math,
I would be good at math"
-Anonymous Student

Bauer, Continued

Fostering a Self-Directed Brain

In Spring 2005 I was mentoring in MCNY's Mentor Leadership Development Program. I was working with a student who struggled with algebra. One evening, the student became very frustrated, put down his pencil and said, "You know what? If God wanted me to be good at math, I would be good at math". What struck me then, and what I still reflect upon now, was the fatalism embedded in the statement. He was stating that any effort is futile because if he was meant to do well, he simply would.

This gentleman was the first student with whom I developed an informal learning plan (LP). It began as a discussion in which he decided concepts, topics, and problem examples that he wanted to learn. Slowly, it evolved into a clear goal statement, with listed objectives and strategies. What transformed along with the plan were his behavior, attitude, and achievement. Math became doable, controllable, and even at times enjoyable. He acknowledged that coming back to school, which involved a requirement to study math, was in fact his decision. This is often a fact math anxious students do not address, and it is quite often an empowering realization. He eventually connected the tasks he needed to complete for the course to his educational and professional goals, and could see the practical application of the concepts.

The LP is a first step for many in making a proactive decision about their own learning. It enables the student to design a learning plan where they decide what they would like to learn, how they want to approach the task and how they will evaluate their own success. Goals set by students that are realistic, specific and measurable are also fairly likely to be achieved. For the student 3 years ago, and many more since, the LP provides a much needed sense of control and accomplishment, thereby mitigating the previously observed effects of uncontrollable stress and anxiety.

The LP alone is not enough in and of itself in developing adaptive coping strategies to MA, as many still focus excessively on performance oriented goals and exhibit LH patterns of behavior. However, it is a starting point in self-initiating plans with goals oriented towards personal learning objectives, and thus an improved sense of control over the learning process. Anxiety and stress are natural parts of being a student; they are natural parts of being human. The difference I've found in stress that motivates from stress that impedes depends on this crucial element of control; if it is believed that one's actions can have an impact and direct outcomes. But when learning is perceived as nothing more than a series of prescriptive tasks enforced and evaluated by someone else, a less than confident student in a challenging subject may not find the will to meet the challenges.

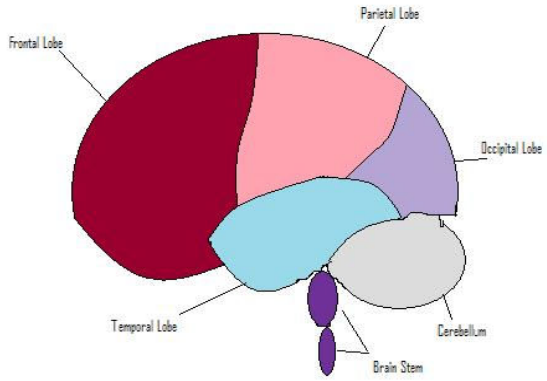

Illustration of the lobes of the brain

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